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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,310	10/31/2003	Tadashi Shimazaki	16UL02095	9803

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EXAMINER
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JAWORSKI, FRANCIS J

ART UNIT	PAPER NUMBER
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3768

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/698,310	Applicant(s) SHIMAZAKI	
	Examiner Jaworski Francis J.	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 – 18 as amended are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to the term “ packet “ as now defined in relation to ultrasound line sequence acquisitions, applicant appears to be incorrectly using the term in the sense that whereas a plurality of packets may exist per frame (see Tamura (US6425868 Fig. 1 where each of plural packets within a frame yields one scanline 14 at different lateral spacings within this frame.), it appears for consistent usage that applicant is in fact referring with the designation “P” to the number of pulses (akin to Tamura 12) which comprise a given packet. That is for the language “number of packets P (greater than/equal to 2)” read -- number of pulses i.e. scanlines P in a given packet is greater than/equal to 2 --.

Additionally, the art equally uses the term packet in relation to ultrasound to pertain to the finite number of RF cycles in the pulse waveform, see Files et al (US5657054) and to the disassembly of frames of data into sub-portions for transmission over communication links (Saetre et al (US6488629, cols. 5 – 6 bridging or

Art Unit: 3737

Wu et al (US6701341) element 408 and related text, Urbano et al(US6086537) Figs. 3A-3B).

[Therefore while applicant in his response is holding in effect that the rejection arguments do not show interframe acquisitions chopping up a single line packet, the interpretation that packet pertains to a set of ultrasound data associated with only one scan line and also assembled for motion processing purposes is presumptive of a definition not present in toto in any claim.]

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,5-11,13-15, 17-18 are again rejected under 35 USC 103(a) as obvious based upon Clark in view of Bjaerum et al (US6537217).

Clark teaches a method and structure for interleaving among two or more packets and across frames as well, see col. 2 lines 35-56, col. 4 lines 30-43, col. 10 lines 14-28, col. 13 lines 33-43 and col. 14 top as exemplary, and in conjunction with parallel reception col. 14 bottom in order to remove artifact during low flow measurements. Since Clark embraces both conventional intra-frame interleave and inter-frame Doppler assemblage with the latter as an improvement over the former,

Art Unit: 3737

the scope of disclosure embraces both modes. In the alternative, it would have been obvious in view of Bjaerum et al to practice Doppler data assemblage across multiple frames since this was heretofore known as a 'sliding window' technique, see fig. 7 and attendant discussion col. 7 line 37 – col. 8 line 15.

Claims 4, 12 and 16 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Clark alone or further in view of Bjaerum et al as applied to claims above, and further in view of Okunuki et al (US55460179). Since the latter in col. 2 lines 1-21 evidences that it was known to acquire scans by use of electronic scanning in concert with mechanical scanning (reflected in its PTO subclass 600/444 combined electrical and mechanical scanning classification) merely as a convenience to access vascular portions for which bloodflow information is desired, it would have been obvious to incorporate combined electrical and mechanical scanning into Clark alone or as modified by Bjaerum et al.

#### Response to Arguments

As noted above, ambiguity exists as to what applicant is now claiming, and therefore the Examiner is adhering to the previous rejection arguments in which inter alia during the multi-frame assemblage of Doppler packets B-mode data is interleaved which includes differing scan lines. Claim 9 and claims 10 and 15 – 18 dependent thereon would be allowable if written to obviate the ambiguities regarding the above soas to eliminate any prior art rejection.

Applicant's counsel is invited to contact the Examiner to resolve the remaining issues.

Art Unit: 3737


**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jaworski Francis J. at telephone number 571-272-4738.

FJJ:fjj

08-05-2005



Francis J. Jaworski  
Primary Examiner